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DISCUSSIONS

EFFECTIVE DILUTION AS A POLLUTION UNIT

The paper entitled "Effective Dilution as a Pollution Unit" by Wm. Firth Wells appears in this issue because it is the policy of the Publication Committee not to stifle publicity of the ideas of contributors to the JOURNAL, even though the Committee sometimes finds it difficult to reconcile with actualities the data presented. The paper by Mr. Wells is a case in point.

Mr. Wells' basic premise involves the reduction of the pathogenicity of sewage pollution by means of dilution with pure water. Theoretically the idea is sound, but practically it is not capable of exploitation. In lieu of purification of polluted water by such widely used artificial means as sedimentation, coagulation, filtration, and sterilization, he would dilute the pollution with pure water to a point where on analysis the same bacterial results would be returned as when the water is purified by such artificial means. There is nothing especially revolutionary in the idea except that it is based upon theoretical premises and cannot be accomplished in practice.

The real objection to the "purification by dilution" idea is that to be really and consistently effective it must be demonstrated that it is always possible to so dilute the pollution, that is, to mix each unit of pollution with the requisite number of units of pure diluting water. Everybody who has had to deal with such matters knows positively that this cannot be done with any degree of certainty.

Mr. Wells states that "in actual practice sanitarians have arrived at a time factor for storage reservoirs which may be considered the equivalent of safe water purification." The writer would like to know where this is being done, and who is responsible for it. Such a tentative conclusion may have been reached by some sanitarian, all bound 'round with a woolen string of qualification, but that such an idea has been adopted, and is in actual practice, the writer very much doubts. If it is, the consumers of that water are taking an awful chance with their health and their lives. We know too much about the vagaries of storage reservoirs; how various disturbing factors like currents, wind action, seasonal overturns, and the like can and do upset all human calculations in this regard. In theory such an idea is all right, but in practice it is all wrong. If storage reservoirs would "stay put" all of the time, and if a consistently reliable period of quiescent storage always could be counted upon, and never fail, then all would be well. But storage reservoirs or lakes *will not* stay put.

If it is the author's desire to revolutionize the art of water purification the writer submits that he had far better devote his time to research into the still existing defects in modern processes of artificial water purification. At least in this field he will be dealing with instruments which he can reasonably control. Bodies of water which he would now use for dilution of pollution he cannot control, nor can he reliably effect in practice the complete mixture of polluted with pure water so as to obtain a mixed water as consistently suitable for human consumption as can be secured by existing artificial processes of water purification. To say the least these artificial processes in a very material degree are amenable to human direction and control.

George A. Johnson.

PRACTICAL WATER WORKS INFORMATION

For several years, successive Publication Committees have done their best to bring about a more free interchange of information on the so-called practical features of water works management. They have not been successful in this, although every suggestion that seemed to have the slightest chance of producing results has been tried thoroughly. The Constitution says that the Publication Committee shall not print "papers containing matter readily found elsewhere, especially advocating personal interests, carelessly prepared, purely speculative or foreign to the purpose of the Association." No two men will agree exactly on the interpretation of this rule in every case, but during the period the writer has been on these committees there has been good working unanimity of opinion.

This is the last number of the Journal to appear before the annual convention, and the writer is, therefore, taking advantage of the opportunity to express the hope that members of the Association at the convention will give to the Publication Committee all suggestions that occur to them which will help in developing the practical side of the Association's published information. It is a fact that the practical side of water supply furnishes less printed information than any other branch in the entire field of public utilities. It has been so for many years. Gas, electricity, sewerage, roads and streets furnish far more information of this kind, and have always done so, yet there is no intrinsic reason for it other than the unwillingness of water works operators to cooperate in getting good information into print.

From time to time the suggestion has been made that the members would like to have the oral discussions, after revision by those taking part, printed without substantial condensation. The present cost of printing is very high and to carry out this plan will involve a large addition to the cost of the JOURNAL as it has been produced for some years back. A large proportion of the members to whom the reports of their oral discussions are sent return them as, 1, not worth printing, or, 2, not at all what they said, or, 3, too confused to be rewritten. The remainder are sometimes rewritten and sometimes returned with a mark of approval as they stand. The part that is returned does not represent the entire discussion, is often almost unintelligible in places on account of the omissions, and would very rarely be printed in any form in a journal published commercially. It is for these reasons, financial and practical, that the writer believes it is unwise to print discussions of papers unless they can be rearranged into a form which will give useful or interesting information without excessive verbiage. But the JOURNAL is printed for the members, and if they desire to have an attempt made to report discussions more elaborately in its pages, the Publication Committee will be very glad indeed to know about this.

The greatest help the Publication Committee can have, however, is advice from members concerning subjects upon which they desire information. This will give the Committee an opportunity to get together data which will certainly interest one member and will probably interest many members. The publication of short practical articles of this nature, once started, will make the JOURNAL more useful and, in time, will prove to a good many members who may now believe the Publication Committee to be a rather dead body, that the fault has not been with the Committee any more than with the membership as a whole.

JOHN M. GOODELL.